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EXAMINER

LAROSE, COLIN M

ART UNIT PAPER NUMBER

2627

DATE MAILED: 10/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 27 July 2005 has been entered.

Response to Arguments and Amendments

2. Applicant's amendments and arguments have been considered and are persuasive. Therefore, the previous 102(b) rejections of independent claims 1, 14, 24, and 27 in view of the Honda reference have been withdrawn. However, new grounds of rejection are established below in view of newly discovered prior art.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 7, 8, 20, 21, 33, and 34 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 7, 8, 20, 21, 33, and 34, the variable utilized in the claimed equations should be defined in order for one skilled in the art to be fairly apprised of the metes and bounds of the claims.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-3, 9, 11, 14-16, 22-29, and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,809,741 by Bates et al. (“Bates”).

Regarding claims 1, 14, 24, and 27, Bates discloses an image processing device/method/program comprising:

a first color detection means for detecting colors of a first image data by each processing unit (computer 100 detects the colors of the pixels (“processing units”) for a text object – see step 320, figure 3);

a second color detection means for detecting colors of a second image data that serves as the first image data's background by each processing unit (computer 100 detects the colors of the pixels for the background – see step 307, figure 3); and

a color adjusting means for specifying a uniform adjusting color, based on the colors of the first image data and the colors of the second image data, that makes the first image data

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recognizable against all colors of the second image data that serves as the first image data's background, concerning the first image data that have approximately equal colors (i.e. when the text and background colors exhibit a contrast problem (step 330), a new color for the text and/or background ("uniform adjusting color(s)") are generated at step 335 – see also figure 7).

Regarding claims 2, 15, 25, and 28, Bates discloses an image processing device/method/program as claimed in claims 1, 14, and 24, further comprising: an image synthesizing means for synthesizing the first image data converted into said adjusting color with said second image data (i.e. computer 100 synthesizes the text image data that has been converted to a new color with the background image data).

Regarding claims 3, 16, 26, and 29, Bates discloses an image processing device/method/program as claimed in claims 1, 14, and 24, wherein said processing unit is a pixel (i.e. the image data may be in a GIF or JPEG format and therefore, consists of pixels – see e.g. column 12, lines 2-6).

Regarding claims 9, 22, and 35, Bates discloses an image processing device/program as claimed in claims 1 and 14, wherein said first image data is an image data that represents character images (i.e. first image data is text).

Regarding claims 11 and 23, Bates discloses preparing an electronic file based on the image data synthesized by the image synthesizing means (e.g. a new HTML file is created with the new color combinations – see column 16, lines 18-22).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 4, 6, 10, 17, 19, 30, 32, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,809,741 by Bates et al. ("Bates") in view of Translation of Japanese Patent 09-025285A by Honda ("Honda").

Regarding claims 4, 17, and 30, Bates discloses an image processing device/program as claimed in claims 1 and 14, further comprising:

a first memory means (120) for storing the colors of the first image data by each of the approximately equal colors (i.e. the values of the detected colors are necessarily stored somewhere in memory); and

a second memory means (120) for storing the colors of the second image data that serves as the first image data's background, said colors of which are correlated to each of the corresponding colors of the first image data that are stored in said first memory means (i.e. the values of the detected colors are necessarily stored somewhere in memory, and those colors of the background object are correlated, or correspond, to the text colors that are overlaid thereon);

Bates teaches that one way of determining the background or foreground colors is through an histogram accumulation method, such as shown in figure 5. However, Bates is silent to calculating average values of the background image data (i.e. the second image data), and

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using the average background color and the text color to determine the uniform adjusting color, as claimed.

Honda discloses an image processing system that makes text more legible by altering the colors of the text so that it exhibits higher contrast as compared with the background on which the text is overlaid. In particular, Honda discloses basing the determination of the new text color on the average of the background colors (page 5 of Honda: “overlay pixel value determination circuit ... computes the average pixel value (density value) of a certain region [of the background image]”). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Bates by Honda to calculate the average value of the background colors per Honda’s teachings and determine the uniform adjusting color based on the colors of the first image data (i.e. the text object) and the average of the second image data (i.e. background colors), since Bates teaches that the manner of detecting the colors of objects is well-known in the art (column 12, lines 10-13), and Honda discloses that one technique for determining a background color is to compute the average of color values in the background. Bates’ uniform adjusting color would then be based on the detected text object colors and the average color values of the background.

Regarding claims 10 and 36, Bates discloses an image processing device as claimed in claim 1, further comprising: a third memory means for storing said second image data (i.e. memory 120).

Regarding claims 6, 19, and 32, Honda discloses an image processing device/program as claimed in claims 4 and 17, wherein said average color value calculating means calculates the average value of the coordinate values of the colors of the second image data in a specified

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color system (page 5 of Honda: "overlay pixel value determination circuit ... computes the average pixel value (density value) of a certain region [of the background image]" – this computation is done in the RGB color system).

9. Claims 5, 18, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,809,741 by Bates et al. ("Bates") in view of Translation of Japanese Patent 09-025285A by Honda ("Honda"), and further in view of U.S. Patent 5,930,385 by Fujimoto et al. ("Fujimoto").

Regarding claims 5, 18, and 31, Bates and Honda is silent to a judging means for judging that colors of the first image data are approximately equal when a sum of squares of the differences of their coordinate values in a specified color system is less than a specified value. Bates, for instance, equates two colors when the colors are within a certain range (see delta values, figure 7)

Fujimoto discloses an image processing system adapted to perform a color conversion on an input image, such as converting a color image to a monochrome image. Figure 2 shows a method for such conversion. Figure 3 shows the process of region dividing, which is included in the method of figure 2. In dividing the image into color regions, it is determined whether adjacent pixels have the same color at step 2-3. As figure 8 shows, determining whether two colors are the same involves determining whether the sum of squares of a difference in color values is less than a threshold.

It would have been obvious to modify Bates and Honda by Fujimoto to include means to judge the similarity of input character colors, as claimed, since Fujimoto discloses that

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generating monochrome text involves judging the similarity of colors based on the sum of squares of the differences of coordinate values in relation to a threshold.

10. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,809,741 by Bates et al. ("Bates") in view of U.S. Patent 5,872,573 by Adegeest.

Regarding claim 12, Bates does not expressly disclose obtaining the first and second image data via a scanner, as claimed.

Adegeest discloses a system for producing legible text to be overlaid on a background, similar to that of Bates. In particular, Adegeest discloses that it is conventional to obtain input images via a scanner for the purposes of adjusting text and background so that the text is more legible against the background. It would have been obvious to modify Honda by Adegeest to input the second image via a scanner, as claimed, since Adegeest shows that it was conventional to input images by electronically scanning documents with a scanner.

Regarding claim 13, Bates is silent to a printer unit for printing images on recording media based on the synthesized image data.

Adegeest discloses a system for producing legible text to be overlaid on a background, similar to that of Bates. In particular, Adegeest discloses that it is conventional to output processed images via a printer 23, figure 1. It would have been obvious to modify Honda by Adegeest to output the synthesized image via a scanner, as claimed, since Adegeest shows that it was conventional to output images using a printer.

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Allowable Subject Matter

11. Claims 7, 8, 20, 21, 33, and 34 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Colin M. LaRose whose telephone number is (571) 272-7423. If attempts to reach the examiner by telephone are unsuccessful, the examiner's acting supervisor, Bhavesh Mehta, can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600 Customer Service Office whose telephone number is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CML
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PRIMARY EXAMINER